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EXAMINER

HUTTON JR, WILLIAM D

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 16

Application Number: 09/732,391
Filing Date: December 7, 2000
Appellant(s): SPURGEON, JAMES D.

Aaron A. Fishman, Reg. No. 44,682

For Appellant

This is in response to the appeal brief filed 16 January 2004.

EXAMINER'S ANSWER

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of Claims 1, 2, 5, 7, 12-14 and 18-23 stand or fall together because Appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

US 3,560,004	Donley et al.	02-1971
US 2,464,136	Jenkins	03-1949
US 3,601,413	Darnell	08-1971

(10) Grounds of Rejection

Claims 1, 2, 4, 5, 7, 12-14 and 18-24 are rejected under 35 U.S.C. 103. This rejection is set forth in prior Office Action, Paper No. 14, which is herein incorporated by reference in its entirety.

(11) Response to Argument

Arguments for Claim 1:

Appellant argues that the examiner has failed to establish a prima facie case of obviousness because the references fail to suggest modifying Donley – the base reference – to use a bellows having a plurality of corrugations. Appellant asserts that Jenkins – the teaching reference – only explains why a bellows with a plurality of corrugations is desirable within the Jenkins design and fails to provide motivation to include such a bellows in the Donley design. See *Paper No. 15* – Page 7, first paragraph.

The examiner disagrees.

In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification.” *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

As discussed in the rejection for Claim 1 in Paper No. 14, Donley discloses every element of the claim, except for a bellows having a *plurality* of corrugations. Appellant does not dispute this. Appellant acknowledges that Jenkins teaches a bellows seal having a plurality of corrugations (see *Paper No. 15* – Page 7, first paragraph, at the end of the third sentence).

The following is a summary of the most relevant **express** teachings of Jenkins:

- Jenkins teaches a bellows seal having a single corrugation (see element 29, Figure 2) and a bellows seal having two corrugations (see the two downwardly-facing corrugations in Figure 3);
- Jenkins teaches that the “single corrugation” bellows (see element 29, Figure 2) can be made of stainless steel in order to give the spring sufficient resiliency to eliminate the springs (see element 37, Figure 2); and
- Jenkins teaches that the “double corrugation” bellows (see the two downwardly-facing corrugations in Figure 3) provides a simpler shape for the ends of the seal and reduces the area contact of the bellows with the rubber rings.

Obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or **implicitly** in the references themselves. “The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art.” *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

When looking at Jenkins, one of ordinary skill in the art at the time the invention was made would realize that the “double corrugation” bellows had a greater resiliency than that of the “single corrugation” bellows. In other words, the “double corrugation”

bellows was springier than the "single corrugation" bellows and thus provided a tighter seal.

When looking at Donley, one of ordinary skill in the art would realize that the amount of resiliency in the corrugation of the seal was an important factor in the tightness of the seal between the ring (see element 35, Figure 1) and the ends of the seal (see elements 33 and 34, Figure 1).

Thus, the combined teachings of Donley and Jenkins would lead one to realize that the resiliency of the bellows in Donley could have been increased by adding more corrugations (a "plurality of corrugations") in the bellows, which would result in a tighter seal. Accordingly, the reference teachings are sufficient for one of ordinary skill in the art, having Donley and Jenkins before him, to make the proposed combination.

Moreover, duplicating the components of a prior art device is a design consideration within the skill of the art. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

In *Harza*, the claims at issue were directed to a water-tight masonry structure wherein a water seal of flexible material fills the joints which form between adjacent pours of concrete. The claimed water seal had a "web" which lies in the joint, and a plurality of "ribs" projecting outwardly from each side of the web into one of the adjacent concrete slabs. The prior art disclosed a flexible water stop for preventing passage of water between masses of concrete in the shape of a plus sign (+). Although the

reference did not disclose a plurality of ribs, the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

The present application is very similar to *Harza* in that it involves a seal and a “duplication” of components. Merely adding another corrugation to the bellows disclosed in Donley does not make Appellant’s subject matter patentable. Appellant has not disclosed or argued that the additional corrugations produce any new or unexpected result. It is considered that the additional corrugations of Appellant’s device are taught by Jenkins.

Appellant appears to argue that the bellows taught in Jenkins cannot be incorporated into the seal disclosed in Donley. See *Paper No. 15* – Page 7, second paragraph through Page 8, first paragraph.

The examiner disagrees.

“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). See also *In re Sneed*, 710 F.2d 1544, 1550, 218 USPQ 385, 389 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”); and *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”).

Whether the bellows of Jenkins can be bodily incorporated into the seal of Donley does not decide the question of obviousness. What does decide the question – in the affirmative – is the teaching of Jenkins that a bellows with a plurality of corrugations would have increased the resiliency of the bellows and provided a tighter seal.

Appellant argues that the examiner “misleadingly cites language in the Jenkins patent.” See *Paper No. 15* – Page 8, second paragraph, first sentence.

The examiner disagrees.

Both Donley and Jenkins disclose a seal having a resilient bellows. Looking at the entire disclosure of Jenkins as a whole, one of ordinary skill in the art would have realized that the “simpler shape” for the ends of the bellows (see element 43, Figure 3 and Column 4, Lines 25-26) was possible because the bellows having a plurality of corrugations (see Figure 3) was springier than the bellows having a single corrugation (see Figure 2) and would have provided a tighter seal. Knowing this, one would have realized that a bellows having a plurality of corrugations in the bellows could be used in the Donley seal in order to provide a tighter seal. There is nothing “misleading” about the examiner’s citation of the language in Jenkins.

Appellant argues that Donley does not describe a need for additional resiliency. See *Paper No. 15* – Page 9, first partial paragraph, first complete sentence.

Such a disclosure is not required to make a *prima facie* case of obviousness. Rather, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Firstly, as explained in the foregoing discussion, there is motivation to combine Donley and Jenkins.

Secondly, one would reasonably expect that, by incorporating the “plurality of corrugations” bellows of Jenkins into the seal of Donley, the resulting seal would have provided a tighter seal between the seal ends and the ring.

Thirdly, as explained in the foregoing discussion, the prior art teaches every element of Claim 1.

Appellant argues that the references teach away from combining the inventions disclosed in Donley and Jenkins. See *Paper No. 15* – Page 9, first full paragraph through Page 10, first partial paragraph.

The examiner disagrees.

Appellant goes into great detail to show that the seal in Jenkins teaches away from including ends having an inward taper. See *Paper No. 15* – Page 9, first full paragraph, second through fifth sentences. Appellant further asserts that the different

bellows end geometry demonstrates that the combination of Donley and Jenkins is unobvious. See *Paper No. 15* – Page 9, first full paragraph, sixth sentence through Page 10, first partial paragraph, first sentence.

Firstly, simply that there are differences between two references is insufficient to establish that such references "teach away" from any combination thereof. *In re Beattie*, 974 F.2d 1309, 1312-13, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992). Secondly, the examiner uses Donley, not Jenkins, to teach a "inwardly tapered end." Thirdly, the examiner uses Jenkins for the sole purpose of teaching that a seal with a bellows having a plurality of corrugations is springier than a seal with a bellows having only a single corrugation, and this teaching is irrespective of any particular type of bellows ends.

Appellant argues that Donley and Jenkins cannot be combined because the bellows seal in Jenkins operates under conditions where the external pressure is greater than the internal pressure whereas the bellows seal in Donley operates under conditions where the internal pressure is greater than the internal pressure. See *Paper No. 15* – Page 10, first full paragraph.

The examiner disagrees.

Jenkins is not being relied upon to teach pressurization of a seal. Rather, Jenkins is relied upon only to teach that a bellows can have a single corrugation or multiple corrugations depending upon the design requirements of the particular use.

Accordingly, it was within the skill level of a person of ordinary skill in the art to change the number of corrugations.

Furthermore, the seal of Jenkins is not designed for exclusive use with an external pressure source. The examiner can find no reference to the best use of external pressure in the design of the bellows in Jenkins (see Appellant's arguments – Page 10, Line 17). As previously stated, Jenkins is not being relied upon to teach external pressure on the bellows.

Appellant's argument appears to be that Jenkins cannot be bodily incorporated into Donley. The examiner is not arguing that it can. Rather, the point is that Jenkins teaches that one would have known that the number of corrugations can be changed to suit the particular application of the seal.

Arguments for Claim 4:

Appellant argues that the references do not teach the inclusion of a gap between the bellows collar and the thrust plate and that the rejection for Claim 4 provides no motivation to combine Jenkins with Donley. See *Paper No. 15* – Page 11, second full paragraph through Page 12, second full paragraph.

The examiner disagrees.

Jenkins does teach the inclusion of a gap between the bellows collar and the thrust plate, and proper motivation to combine Jenkins with Donley was provided, as specified in the rejection for Claim 4 in Paper No. 14. It should be noted that Donley

discloses a static sealing element (see element 35, Figure 1) being disclosed between the collar (see elements 33 and 34, Figure 1) and the thrust plate (see elements 36 and 37, Figure 1). However, this viewpoint has not been advanced in the final rejection and is not being relied upon in this answer.

Arguments for Claim 24:

Appellant argues that the prior art fails to disclose a method for forming a corrugated bellows. See *Paper No. 15* – Page 12, third full paragraph through Page 14, second full paragraph.

The examiner disagrees. Appellant's "method" claim is merely a claim for assembling the seal of Claim 1. The claim does not include a single specific manufacturing process that is used to assemble the seal. Rather, Claim 24 only refers to "methods" like "forming" (Line 4) and "folding" (Line 5). As such, Claim 24 is a "product-by-process" claim.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Accordingly, the patentability of Claim 24 is based on the product, not by the process of making the

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product. As previously illustrated, Donley, in view of Jenkins, teaches every element of the seal specified in Claim 1.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Examiner
Art Unit 2178


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WDH
February 18, 2004

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